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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER				
DITRANI, ANGELA M				
ART UNIT		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/585,397

**Applicant(s)**

HODGINS ET AL.

**Examiner**

Angela M. DiTrani

**Art Unit**

3676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 21-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. New depending claim 21 recites the limitation of wherein the foam "consists essentially of water and a surfactant." There is no explicit disclosure of the foam *consisting essentially* of water and a surfactant, and, therefore, the newly recited limitation constitutes new matter within the claims. The Examiner would like to note that should Applicant replace the phrase "consists essentially of" with -comprises-, claims 21-24 will recite the same subject matter as presented within claims 14-16.

***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchins et al. (US 5,203,834) in view of Weaver et al. (US 4,460,627).

With respect to independent claim 1, Hutchins et al. discloses a method of reducing water influx into a well bore, comprising the following steps: first introducing a gelant into the well bore (col. 3, l. 55-64), wherein the well bore is in fluid communication with a subterranean formation; second introducing a temporarily stable foam into the well bore (col. 7, l. 53-68; col. 8, l. 34-50); and providing a set-up period to permit the gelant to set to form a gel block in the formation and to permit the temporarily stable foam to break down to permit passage of gas through the foam into the well bore (col. 8, l. 20-33).

Hutchins et al., however, fails to explicitly teach wherein the temporarily stable foam is introduced into the subterranean formation so as to over-displace the gelant from the well bore from and into the formation as claimed. Weaver et al. teaches well treatment methods for altering fluid flow and surface characteristics of a subterranean formation wherein a polymeric gelling composition is injected into the formation so as to alter the permeability thereof. The treatment fluid may be over-displaced away from the well bore or formation surface for the purpose of increasing the effective radius or bore of the polymer treated zone around the well (col. 21, l. 9-24). Weaver et al. further provides for example treatment methods wherein the treating solution is over-displaced into the formation prior to putting the well on production (col. 49, l. 21 - col. 50, l. 12). Since both Hutchins et al. and Weaver et al. teach methods of altering the permeability of a formation to water and/or oil, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the treatment of Hutchins et al. wherein the polymeric gelant is overdisplaced into the formation in order to extend

the treatment away from the well bore surface so as to increase the effective radius of the polymer treated zone around the well.

With respect to depending claims 2-5 and 14-19, Hutchins et al. teaches wherein the gelant is comprised of a polymer, and further, a crosslinker (col. 3, l. 31 – col. 4, l. 49), wherein the polymer is comprised of polyacrylamide (col. 4, l. 6-27), and, wherein the cross-linker is comprised of chromium ions (col. 4, l. 34-49); wherein the foam is comprised of water and a surfactant, and, wherein the surfactant is comprised of an olefin sulfonate, and, further, wherein the surfactant is comprised of alpha olefin sulfonate (col. 4, l. 50 – col. 5, l. 54); wherein the concentration of surfactant in the foam is no greater than about 0.1 weight percent by weight of the foam, and, further, wherein the concentration is no greater than about 0.05 percent by weight of the foam (col. 5, l. 3-12).

With respect to depending claim 6, Hutchins et al. fails to explicitly teach wherein the ratio by weight of the polyacrylamide to the chromium ions in the gelant is no greater than about 80 to 1. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide for a ratio as claimed insofar as because it has been held "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

With respect to depending claims 7 and 9, Hutchins et al. teaches wherein the polymer comprises polyacrylamide (col. 3, l. 31 – col. 4, l. 27). Although the reference fails to explicitly teach wherein the polyacrylamide has a molecular weight greater than

about 1,000,000 and wherein the concentration of polyacrylamide is no greater than about 2 percent by weight of the gelant as claimed in claim 7, and, no greater than about 1 percent by weight of the gelant as claimed in claim 9, it would have been obvious to one having ordinary skill in the art to provide for a polyacrylamide having a molecular weight at the concentrations as claimed insofar as because it has been held "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

With respect to depending claim 8, Hutchins et al. teaches wherein the formation is a fractured formation (col. 13, l. 59-61).

With respect to depending claims 10 and 12, Hutchins et al. teaches wherein the formation has a permeability (col. 1, l. 14-20). Although the reference fails to explicitly teach wherein the permeability is less than about 1000 mD as well as wherein the formation has a permeability greater than or equal to 1000mD, the Examiner hereby takes Official Notice in that it would have been obvious to one having ordinary skill in the art to provide for the treatment disclosed by Hutchins et al. in a formation having a permeability less than about 1000 mD as claimed, or in a formation having a permeability greater than or equal to 1000 mD as claimed insofar as because selective permeability treatments as taught by Hutchins are known to be employed within formations having both higher and lower permeabilities in order to provide for a more uniform permeability therein. Furthermore, in claiming the permeability of the formation as both less than 1000 mD in claim 12, as well as greater than or equal to 1000 mD in

claim 10, it appears Applicant is claiming the use of the treatment in either formation permeability, thereby making the permeability of the formation an obvious variant. One of ordinary skill would therefore recognize the use of the treatment in either formation type in order to reduce the water influx therein.

With respect to further depending claims 11 and 13, Hutchins et al. teaches wherein the polymer comprises polyacrylamide (col. 3, l. 31 – col. 4, l. 27). Although the reference fails to explicitly teach wherein the polyacrylamide has a molecular weight greater than about 1,000,000 and wherein the concentration of polyacrylamide is between about 0.2 and 1 percent by weight of the gelant as claimed in claim 11, and, wherein the molecular weight is less than or equal to 1,000,000 and wherein the concentration is at least about 1 percent by weight of the gelant as claimed in claim 13, it would have been obvious to one having ordinary skill in the art to provide for a polyacrylamide having a molecular weight at the concentrations as claimed insofar as because it has been held "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

With respect to depending claims 19 and 20, although not explicitly stated, Hutchins et al. teaches wherein the gelant has a gelant viscosity in situ, wherein the foam has a foam viscosity in situ, and wherein the gelant viscosity in situ and the foam viscosity in situ are approximately equal as claimed in depending claim 19, and wherein the gelant viscosity in situ is less than or about equal to the foam viscosity in situ insofar as because \*\*\*

With respect to depending claims 21-24, Hutchins et al. teaches wherein the foam is comprised of water and a surfactant, and, wherein the surfactant is comprised of an olefin sulfonate, and, further, wherein the surfactant is comprised of alpha olefin sulfonate (col. 4, l. 50 – col. 5, l. 54); wherein the concentration of surfactant in the foam is no greater than about 0.1 weight percent by weight of the foam, and, further, wherein the concentration is no greater than about 0.05 percent by weight of the foam (col. 5, l. 3-12).

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection in light of Applicant's amendments and new limitations presented within independent claim 1, as well as the addition of new claims 21-24.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any



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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela M. DiTrani whose telephone number is (571)272-2182. The examiner can normally be reached on M-F, 6:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer Gay can be reached on (571)272-7029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AD

08/13/09

/Zakiya W. Bates/

Primary Examiner, Art Unit 3676